



Arrhythmias

IMPROVEMENT OF MITRAL REGURGITATION AFTER CATHETER ABLATION FOR ATRIAL FIBRILLATION

ACC Moderated Poster Contributions

McCormick Place South, Hall A

Monday, March 26, 2012, 9:30 a.m.-10:30 a.m.

Session Title: Arrhythmias: AF/SVT: Outcomes after Catheter Ablation of Atrial Arrhythmias

Abstract Category: 16. Arrhythmias: AF/SVT

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Background: Atrial fibrillation (AF) has been reported to cause left atrial dilatation with dilatation of mitral annulus (MA) which is associated with functional mitral regurgitation (MR). The impact of catheter ablation (CA) for AF on MR remains unknown.

Methods: We defined significant MR as that with % MR jet area to the LA area > 20%. Out of 214 patients underwent AF ablation, significant MR without left ventricular dilatation was observed in 26 patients. Mid-systolic MA area, % MR jet area and mitral coaptation length were assessed by echocardiography before and 3-month after CA. The MA area was obtained from its dimensions in the apical four- and two-chamber views, using an ellipsoid assumption. LA volume was also assessed by multi-detector computed tomography. The grade of MR was estimated as trace, mild, moderate, or severe on the basis of % MR jet area of >0-10, >10-20, >20-40, and >40%. We defined improvement in MR as one or more grades improvement of the significant MR after CA.

Results: The mean % MR jet area improved by AF ablation from 31 +/- 9% to 18 +/- 11%. Patients were divided in two groups based on presence or absence of MR improvement 3 months after CA. MR improvement was present in 17 patients (65%). In the improvement group (n=17), the proportion of patients with organic mitral valve disease and that with mitral valve prolapse were significantly smaller than in non-improvement group (n=9) (29% vs. 83%, p= 0.011 and 12% vs. 56%, p= 0.028, respectively). Three months after CA, the % decrease in the LA volume, the % decrease in the MA area and the % increase in the coaptation length were significantly greater in the improvement group than in non-improvement group (36 +/- 28% vs. 10 +/- 24%, p=0.02, 21 +/- 10% vs. 12 +/- 9%, p=0.048, and 66 +/- 56% vs. 9 +/- 29%, p=0.013, respectively). But there was no significant difference in the % change in left ventricular dimension between the two groups (2 +/- 6% vs. -1 +/- 3%, p=0.20).

Conclusions: Functional MR in AF patients could improve after CA. That could be due to LA reverse remodeling followed by improved coaptation.